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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,341	01/02/2004	Jae-Ik Kwon	51739/DBP/Y35	7587
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CHRISTIE, PARKER & HALE, LLP			PATEL, ASHOK	
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Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/751,341	<b>Applicant(s)</b> KWON ET AL.	
	<b>Examiner</b> Ashok Patel	<b>Art Unit</b> 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                      | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

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1. Applicant's arguments filed 09/11/2006 have been fully considered but they are not persuasive.
2. The terminal disclaimer filed on 09/11/2006 has been reviewed and is NOT accepted. An attorney or agent, not of record, is not authorized to sign a terminal disclaimer in the capacity as an attorney or agent acting in a representative capacity as provided by 37 CFR 1.34 (a). See 37 CFR 1.321(b) and/or (c).
3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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4. Claims 1-2 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 21 of copending Application No. 10/746,540. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 21 of copending Application No. 10/746,540 recites applicant's claimed PDP including: first substrate, address electrodes, barrier ribs, phosphor layers as mentioned below:

U.S. Patent Application 10/751,341	U.S. Patent Application 10/746,540
Claim 1. A plasma display panel comprising: a first substrate and a second substrate provided opposing one another with a predetermined gap therebetween; address electrodes formed on the second substrate, barrier ribs mounted between the first substrate and the second substrate, the barrier ribs defining a plurality of discharge cells and a plurality of non-discharge regions, phosphor layers formed within each of the discharge cells; and discharge sustain electrodes formed on the first substrate, wherein the non-discharge regions are formed in areas encompassed by discharge cell abscissas that pass through centers of adjacent discharge cells and discharge cell	Claim 21. A plasma display panel comprising: a first substrate and a second substrate provided opposing one another with a predetermined gap therebetween; address electrodes formed on the second substrate, barrier ribs mounted between the first substrate and the second substrate, the barrier ribs defining a plurality of discharge cells and a plurality of non-discharge regions, phosphor layers formed within each of the discharge cells; and  discharge sustain electrodes formed on the first substrate, wherein the non-discharge regions are formed in areas encompassed by discharge cell abscissas that pass through centers of adjacent discharge cells and discharge cell ordinates

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ordinates that pass through centers of adjacent discharge cells,

wherein each of the discharge cells is formed such that ends of the discharge cells gradually decrease in width along a direction the discharge sustain electrodes are formed as a distance from a center of the discharge cells is increased along a direction the address electrodes are formed,

wherein the discharge sustain electrodes include bus electrodes that extend such that a pair of the bus electrodes is provided for each of the discharge cells, and protrusion electrodes formed extending from each of the bus electrodes such that a pair of opposing protrusion electrodes is formed within areas corresponding to each discharge cell,

wherein a distal end of each of the protrusion electrodes opposite proximal ends connected to and extended from the bus electrodes is formed including an indentation, and a first discharge gap and a second discharge gap of different sizes are formed between distal ends of opposing protrusion electrodes, and

wherein the discharge cells are filled with discharge gas containing 10% or more Xenon.

that pass through centers of adjacent discharge cells,

wherein each of the discharge cells is formed such that ends of the discharge cells gradually decrease in width along a direction the discharge sustain electrodes are formed as a distance from a center of the discharge cells is increased along a direction the address electrodes are formed,

wherein the discharge sustain electrodes include bus electrodes that extend such that a pair of the bus electrodes is provided for each of the discharge cells, and protrusion electrodes formed extending from each of the bus electrodes such that a pair of opposing protrusion electrodes is formed within areas corresponding to each discharge cell,

wherein a distal end of each of the protrusion electrodes opposite proximal ends connected to and extended from the bus electrodes is formed including an indentation, and a first discharge gap and a second discharge gap of different sizes are formed between distal ends of opposing protrusion electrodes.

The PDP of claim 18 of the co-pending application 10/746,540 does not recite the discharge cells filled with discharge gas containing 10% or more Xenon.

However providing the discharge cells with a mixture of xenon gas is known in the art for optimizing discharge property of the PDP.

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	Therefore, it would have been obvious to one of ordinary skill in the art to provide the PDP of claim 18 of the co-pending application 10/746,540 including suitable amount of Xenon gas within the discharge fill material for optimizing discharge property of the PDP.
Claim 2. The PDP of claim 2, wherein the discharge cells are filled with discharge gas containing 10-60% Xenon.	As mentioned in the rejection of claim 1, providing suitable amount of a mixture of xenon gas is known in the art for optimizing discharge property of the PDP.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 1-3 are further provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 10, 17 and 18 of copending Application No. 10/871,427. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 10, 17 and 18 of the copending Application No. 10/871,427 recite applicant's claimed PDP including: first substrate, address electrodes, barrier ribs, phosphor layers as mentioned below:

U.S. Patent Application 10/751,341	U.S. Patent Application 10/871,427
<p>Claim 1. A plasma display panel comprising:</p> <p>    a first substrate and a second substrate provided opposing one another with a predetermined gap therebetween;</p> <p>    address electrodes formed on the second substrate,</p> <p>    barrier ribs mounted between the first substrate and the second substrate, the barrier ribs defining a plurality of discharge cells and a plurality of non-discharge regions,</p> <p>    phosphor layers formed within each of the discharge cells; and</p> <p>    discharge sustain electrodes formed on the first substrate,</p> <p>    wherein the non-discharge regions are formed in areas encompassed by discharge cell abscissas that pass through centers of adjacent discharge cells and discharge cell ordinates that pass through centers of adjacent discharge cells,</p> <p>    wherein each of the discharge cells is formed such that ends of the discharge cells gradually decrease in width along a direction the discharge sustain electrodes are formed as a distance from a center of the discharge cells is increased along a direction the address electrodes are formed,</p> <p>    wherein the discharge sustain electrodes include bus electrodes that extend such that a pair of</p>	<p>Claims 1, 10, and 17. A plasma display panel comprising:</p> <p>    a first substrate and a second substrate provided opposing one another with a predetermined gap therebetween;</p> <p>    address electrodes formed on the second substrate,</p> <p>    barrier ribs mounted between the first substrate and the second substrate, the barrier ribs defining a plurality of discharge cells and a plurality of non-discharge regions,</p> <p>    phosphor layers formed within each of the discharge cells; and</p> <p>    discharge sustain electrodes formed on the first substrate,</p> <p>    wherein the non-discharge regions are formed in areas encompassed by discharge cell abscissas that pass through centers of adjacent discharge cells and discharge cell ordinates that pass through centers of adjacent discharge cells,</p> <p>    wherein each of the discharge cells is formed such that ends of the discharge cells gradually decrease in width along a direction the discharge sustain electrodes are formed as a distance from a center of the discharge cells is increased along a direction the address electrodes are formed,</p> <p>    wherein the discharge sustain electrodes include bus electrodes that extend such that</p>

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<p>the bus electrodes is provided for each of the discharge cells, and protrusion electrodes formed extending from each of the bus electrodes such that a pair of opposing protrusion electrodes is formed within areas corresponding to each discharge cell,</p> <p>wherein a distal end of each of the protrusion electrodes opposite proximal ends connected to and extended from the bus electrodes is formed including an indentation, and a first discharge gap and a second discharge gap of different sizes are formed between distal ends of opposing protrusion electrodes, and</p> <p>wherein the discharge cells are filled with discharge gas containing 10% or more Xenon.</p>	<p>a pair of the bus electrodes is provided for each of the discharge cells, and protrusion electrodes formed extending from each of the bus electrodes such that a pair of opposing protrusion electrodes is formed within areas corresponding to each discharge cell,</p> <p>wherein a distal end of each of the protrusion electrodes opposite proximal ends connected to and extended from the bus electrodes is formed including an indentation, and a first discharge gap and a second discharge gap of different sizes are formed between distal ends of opposing protrusion electrodes.</p> <p>The PDP of claims 1, 10, and 17 of the co-pending application 10/871,427 do not recite the discharge cells filled with discharge gas containing 10% or more Xenon.</p>
<p>Claims 2. The PDP of claim 2, wherein the discharge cells are filled with discharge gas containing 10-60% Xenon.</p>	<p>The PDP of claims 1, 10, 17 and 18 of the co-pending application 10/871,427 recite the discharge cells filled with discharge gas containing 10%-60% Xenon.</p>

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. Claims 1 and 2 are further provisionally rejected on the ground of nonstatutory obviousness-type double patenting as



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being unpatentable over claims 1, 12, 14, 15 and 16 of co-pending U.S. Patent Application Serial Number 10/999,231.

Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 12, 14, 15 and 16 of co-pending U.S. Patent Application Serial Number 10/999,231 recite applicant's claimed PDP including: first substrate, address electrodes, barrier ribs, phosphor layers as mentioned below:

U.S. Patent Application 10/751,341	U.S. Patent Application 10/999,231
<p>Claim 1. A plasma display panel comprising:</p> <p style="padding-left: 40px;">a first substrate and a second substrate provided opposing one another with a predetermined gap therebetween;</p> <p style="padding-left: 40px;">address electrodes formed on the second substrate,</p> <p style="padding-left: 40px;">barrier ribs mounted between the first substrate and the second substrate, the barrier ribs defining a plurality of discharge cells and a plurality of non-discharge regions,</p> <p style="padding-left: 40px;">phosphor layers formed within each of the discharge cells; and</p> <p style="padding-left: 40px;">discharge sustain electrodes formed on the first substrate,</p> <p style="padding-left: 40px;">wherein the non-discharge regions are formed in areas encompassed by discharge cell abscissas that pass through centers of adjacent discharge cells and discharge cell ordinates that pass through centers of adjacent discharge cells,</p> <p style="padding-left: 40px;">wherein each of the discharge</p>	<p>Claims 1, 12 and 14. A plasma display panel comprising:</p> <p style="padding-left: 40px;">a first substrate and a second substrate provided opposing one another with a predetermined gap therebetween;</p> <p style="padding-left: 40px;">address electrodes formed on the second substrate,</p> <p style="padding-left: 40px;">barrier ribs mounted between the first substrate and the second substrate, the barrier ribs defining a plurality of discharge cells and a plurality of non-discharge regions,</p> <p style="padding-left: 40px;">phosphor layers formed within each of the discharge cells; and</p> <p style="padding-left: 40px;">discharge sustain electrodes formed on the first substrate,</p> <p style="padding-left: 40px;">wherein the non-discharge regions are formed in areas encompassed by discharge cell abscissas that pass through centers of adjacent discharge cells and discharge cell ordinates that pass through centers of adjacent discharge cells,</p> <p style="padding-left: 40px;">wherein each of the discharge</p>

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cells is formed such that ends of the discharge cells gradually decrease in width along a direction the discharge sustain electrodes are formed as a distance from a center of the discharge cells is increased along a direction the address electrodes are formed,

wherein the discharge sustain electrodes include bus electrodes that extend such that a pair of the bus electrodes is provided for each of the discharge cells, and protrusion electrodes formed extending from each of the bus electrodes such that a pair of opposing protrusion electrodes is formed within areas corresponding to each discharge cell,

wherein a distal end of each of the protrusion electrodes opposite proximal ends connected to and extended from the bus electrodes is formed including an indentation, and a first discharge gap and a second discharge gap of different sizes are formed between distal ends of opposing protrusion electrodes, and

wherein the discharge cells are filled with discharge gas containing 10% or more Xenon.

cells is formed such that ends of the discharge cells gradually decrease in width along a direction the discharge sustain electrodes are formed as a distance from a center of the discharge cells is increased along a direction the address electrodes are formed,

wherein the discharge sustain electrodes include bus electrodes that extend such that a pair of the bus electrodes is provided for each of the discharge cells, and protrusion electrodes formed extending from each of the bus electrodes such that a pair of opposing protrusion electrodes is formed within areas corresponding to each discharge cell,

wherein a distal end of each of the protrusion electrodes opposite proximal ends connected to and extended from the bus electrodes is formed including an indentation, and a first discharge gap and a second discharge gap of different sizes are formed between distal ends of opposing protrusion electrodes.

The PDP of Claims 1, 12 and 14 of the co-pending application 10/999,231 does not recite the discharge cells filled with discharge gas containing 10% or more Xenon.

However providing the discharge cells with a mixture of xenon gas is known in the art for optimizing discharge property of the PDP.

Therefore, it would have been obvious to one of ordinary skill in the art to provide the PDP of claim 18 of the co-pending

	application 10/999,231 including suitable amount of Xenon gas within the discharge fill material for optimizing discharge property of the PDP.
Claim 2. The PDP of claim 2, wherein the discharge cells are filled with discharge gas containing 10-60% Xenon.	As mentioned in the rejection of claim 1, providing suitable amount of a mixture of xenon gas is known in the art for optimizing discharge property of the PDP.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 1 and 2 are further rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 7 and 9 of U.S. Patent No. 7,109,656. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 12, 14, 15 and 16 U.S. Patent No. 7,109,656 recite applicant's claimed PDP including: first substrate, address electrodes, barrier ribs, phosphor layers as mentioned below:

U.S. Patent Application 10/751,341	U.S. Patent No. 7,109,656
Claim 1. A plasma display panel comprising: a first substrate and a second substrate provided opposing one another with a predetermined gap therebetween;	Claims 1, 7 and 9. A plasma display panel comprising: a first substrate and a second substrate provided opposing one another with a predetermined gap therebetween;

<p>address electrodes formed on the second substrate,</p> <p>barrier ribs mounted between the first substrate and the second substrate, the barrier ribs defining a plurality of discharge cells and a plurality of non-discharge regions,</p> <p>phosphor layers formed within each of the discharge cells; and</p> <p>discharge sustain electrodes formed on the first substrate,</p> <p>wherein the non-discharge regions are formed in areas encompassed by discharge cell abscissas that pass through centers of adjacent discharge cells and discharge cell ordinates that pass through centers of adjacent discharge cells,</p> <p>wherein each of the discharge cells is formed such that ends of the discharge cells gradually decrease in width along a direction the discharge sustain electrodes are formed as a distance from a center of the discharge cells is increased along a direction the address electrodes are formed,</p> <p>wherein the discharge sustain electrodes include bus electrodes that extend such that a pair of the bus electrodes is provided for each of the discharge cells, and protrusion electrodes formed extending from each of the bus electrodes such that a pair of opposing protrusion electrodes is formed within areas corresponding to each discharge cell,</p>	<p>address electrodes formed on the second substrate,</p> <p>barrier ribs mounted between the first substrate and the second substrate, the barrier ribs defining a plurality of discharge cells and a plurality of non-discharge regions,</p> <p>phosphor layers formed within each of the discharge cells; and</p> <p>discharge sustain electrodes formed on the first substrate,</p> <p>wherein the non-discharge regions are formed in areas encompassed by discharge cell abscissas that pass through centers of adjacent discharge cells and discharge cell ordinates that pass through centers of adjacent discharge cells,</p> <p>wherein each of the discharge cells is formed to accommodate the widths of both end portions thereof placed in the direction of the address electrodes becoming narrower as they become further from the center of the discharge cells (claim 9),</p> <p>wherein the discharge sustain electrodes include bus electrodes that extend such that a pair of the bus electrodes is provided for each of the discharge cells, and protrusion electrodes formed extending from each of the bus electrodes such that a pair of opposing protrusion electrodes is formed within areas corresponding to</p>
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<p>wherein a distal end of each of the protrusion electrodes opposite proximal ends connected to and extended from the bus electrodes is formed including an indentation, and a first discharge gap and a second discharge gap of different sizes are formed between distal ends of opposing protrusion electrodes, and</p> <p>wherein the discharge cells are filled with discharge gas containing 10% or more Xenon.</p>	<p>each discharge cell,</p> <p>wherein a distal end of each of the protrusion electrodes opposite proximal ends connected to and extended from the bus electrodes is formed including an indentation, and a first discharge gap and a second discharge gap of different sizes are formed between distal ends of opposing protrusion electrodes.</p> <p>The PDP of claims 1, 7 and 9 of the U. S. Patent 7,109,656 do not recite the discharge cells filled with discharge gas containing 10% or more Xenon.</p> <p>However providing the discharge cells with a mixture of xenon gas is known in the art for optimizing discharge property of the PDP.</p> <p>Therefore, it would have been obvious to one of ordinary skill in the art to provide the PDP of claims 1, 7 and 9 of the U. S. Patent 7,109,656 including suitable amount of Xenon gas within the discharge fill material for optimizing discharge property of the PDP.</p>
<p>Claim 2. The PDP of claim 2, wherein the discharge cells are filled with discharge gas containing 10-60% Xenon.</p>	<p>As mentioned in the rejection of claim 1, providing suitable amount of a mixture of xenon gas is known in the art for optimizing discharge property of the PDP.</p>

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8. Previously indicated allowability of claims 1-3 is withdrawn in view of newly discovered prior art to Takagi et al (USPN 6,376,986). Prior art rejection of claims 1-3 appears as follows.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi et al (USPN 6,376,986).

Takagi et al disclose applicant's claimed plasma display panel (at least Figures 9, 14 etc.) including:

first and second substrates (11, 21) provided opposing one another with a predetermined gap therebetween;

address electrodes (A) formed on the second substrate;

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barrier ribs (29) mounted between the first and second substrates, the barrier ribs defining a plurality of discharge cells (g, 30) and a plurality of non-discharge regions (the discharge regions that includes two close opposing portions of elements 29); phosphor layers (28R, 28B, 28G) and

discharge sustain electrodes (Xg, Yg) formed on the first substrate,

wherein, as shown in Figure 9, the non-discharge regions are formed in areas encompassed by discharge cell abscissas that pass through centers of adjacent discharge cells and discharge cell ordinates that pass through centers of adjacent discharge cells,

wherein, as shown in Figure 9, each of the discharge cells are formed such that ends of the discharge cells gradually decrease in width along a direction the discharge sustain electrodes are formed as a distance from a center of the discharge cells is increased along a direction the address electrodes are formed,

wherein the discharge sustain electrodes include bus electrodes (42) that extend such that a pair of the bus electrodes is provided for each of the discharge cells, and protrusion electrodes (41g) formed extending from each of the bus electrodes such that a pair of opposing protrusion

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electrodes (411g, 412g) is formed within areas corresponding to each discharge cell,

wherein a distal end of each of the protrusion electrodes opposite proximal ends connected to and extended from the bus electrodes is formed including an indentation, and a first discharge gap and a second discharge gap of different sizes are formed between distal ends of opposing protrusion electrodes and xenon gas within the discharge cells.

Takagi et al do not disclose the xenon gas in the amount of 10% or more. However, since it has been held that where general conditions of the claim are discovered in the prior art, discovering the optimum or workable range involves only routine skill in the art for optimizing/enhancing characteristics of the gas discharge. In re Aller, 105 USPQ 233. In light of this, it would have been obvious to one of ordinary skill in the art to provide Takagi et al's plasma display panel including a desired amount of xenon gas for optimizing/enhancing characteristics of the gas discharge.

As to claim 2, Takagi et al do not disclose the xenon gas in the amount of 10-60. As mentioned earlier, it has been held that where general conditions of the claim are discovered in the prior art, discovering the optimum or workable range involves only routine skill in the art for optimizing/enhancing



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characteristics of the gas discharge. In re Aller, 105 USPQ 233. In light of this, it would have been obvious to one of ordinary skill in the art to provide Takagi et al's plasma display panel including a desired amount of xenon gas for optimizing/enhancing characteristics of the gas discharge.

It is to be noted that applicant's claimed amount of xenon gas does not solve any particular problem that is not solved by xenon gas within a prior art plasma display panel. In light of this, applicant's claimed amount of xenon (10% or more, regarding claim 1, or 10%-60% regarding claim 2) would have been a matter of matter of obvious design choice to one of ordinary skill in the art.

11. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior art of the record does not disclose applicant's claimed device of entire claim 1, satisfying relationship:

$167 \leq F(A+Xe) \leq 240$ , as recited in claim 3, wherein if A is a sum of a size of a first discharge gap and a second discharge gap, where  $F(A+Xe)$  is the sum of the A values with the Xenon (Xe) content values in which there has been no conversion

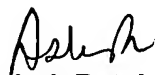
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in the units of micrometers for the A values and the units of percentage for the Xe content values.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok Patel whose telephone number is 571-272-2456. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**Ashok Patel**  
**Primary Examiner**  
**Art Unit 2879**